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Remarks

These remarks respond to the Office Action dated April 6, 2006. Claims 1-35 are pending in the present application. All of the claims have been rejected by the Examiner. Claims 1, 14, 19, and 27 have been amended and no claims have been cancelled. Support for these amendments comes from at least paragraphs [0034] – [0038] and FIGS. 3 and 6-8. Reconsideration of the present application is requested.

Drawing Objections

The drawings have been objected to under 37 CFR 1.83(a) as not showing the “element numbers for the inner/outer surface of the heat generation device” as recited in at least claim 26. While the Applicants do not agree with this rejection, the Applicants, in an effort to comply with the Examiner’s request, have submitted replacement figures for FIGS. 7 and 8. The replacement figures include reference numbers for the inner and outer surfaces of the combustion chamber enclosures. The Applicants have furthermore amended paragraphs [00035] and [0038] to include a short description of what these reference numbers illustrate. It is not believed that this description is new matter and the Applicants invite the Examiner to contact the undersigned if these amendments do not satisfy the Examiner’s request.

Independent Claims 1 and 19 Are Not Anticipated by Pierce

Claims 1, 6-8, 19, 21, 22, and 24 have been rejected by the Examiner under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,470,542 to Jim Pierce et al. (“*Pierce*”). *Pierce*, however, does not teach, disclose, or suggest all of the recited elements of independent claims 1 or 19. Claims 1 and 19 also do not read upon *Pierce*. *Pierce* therefore does not anticipate the subject matter claimed by independent claims 1 and 19.

Pierce teaches a “home heating system which transfers heat generated in a fireplace” throughout the home. Abstract. *Pierce*’s heat-transfer unit includes a “hydro-grate 1” that consists of “an inlet manifold 2, and a discharge manifold 3, and a plurality of arcuate heating tubes 4.” Col. 2, lines 10-12. Water is heated as it is passed through the hydro-grate. The heated water is then passed to a cooling unit 10 that transfers the heat to a radiator 19 and then to the house. The hydro-grate conduits that contain the water are free standing and formed substantially in the shape shown in FIG. 1. The conduits are heated by direct exposure to the

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flame contained in the combustion chamber.

In contrast, amended claim 1 recites a "hydronic heating system" that includes "a combustion chamber enclosure having a plurality of panels defining a combustion chamber" and a conduit that is "substantially embedded" in at least one of the panels. The conduits as claimed are "embedded" in the panels as described in at least paragraphs [0033] – [0038] and as shown in the figures. A majority of the conduit is therefore retained inside of the panel, which absorbs "heat from a heat source and transfer the absorbed heat to the liquid in the conduit." *Pierce* does not teach or disclose conduits that are substantially embedded in panels as claimed by claim 1. *Pierce*, rather, teaches and discloses conduits that are substantially free standing and separate from any other structure and which are exposed to, and absorb heat directly from, the flame. *Pierce* therefore does not teach and disclose all of the recited elements of claim 1.

Furthermore, claim 19 recites a "method of manufacturing a hydronic heating system" including the steps of "forming a panel" and "encapsulating a liquid-filled conduit in the panel." In addition, claim 19 recites "forming a combustion chamber enclosure" and "attaching the panel to a surface of the combustion chamber enclosure." A majority of the liquid-filled conduit is retained inside of the panel and the panel is attached to the combustion chamber. *Pierce*, in contrast, does not teach or disclose forming a panel that encapsulates the conduit and then "attaching the panel to a surface of the combustion chamber enclosure." *Pierce*, rather, teaches and discloses conduits that are substantially free standing and exposed directly to the flame. *Pierce* therefore does not teach and disclose all of the recited elements of claim 19.

As illustrated, *Pierce* does not teach, disclose, or suggest all of the recited elements of claims 1 and 19. Moreover, claims 1 and 19 do not read upon *Pierce*. *Pierce* therefore cannot anticipate claims 1 and 19 and these claims are allowable over *Pierce*.

Since claims 6-8, 21, 22, and 24 depend from one of claims 1 and 19 these claims are allowable for at least the reasons presented above.

Independent Claims 14 and 27 Are Not Obvious Over *Pierce* in View of *Wade*

The Examiner has rejected claims 14-16 and 27-35 under 35 U.S.C. § 103(a) as being obvious over *Pierce* in view of U.S. Patent No. 6,260,548 to *Wade* ("*Wade*"). The combination of *Pierce* and *Wade*, however, does not teach, suggest, or disclose all of the features of independent claims 14 and 27. Moreover, each of these claims does not read upon any

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combination of *Pierce* and *Wade*. Independent claims 14 and 27 are therefore not obvious in view of *Pierce* and *Wade*.

Pierce is substantially described above. *Wade* teaches an "improved gas operated fireplace module" that has a "ceramic support base with a plurality of irregularly shaped and spaced protruberants on the upper surface of the base." Abstract. *Wade* further teaches that the ceramic support base may be "formed of a lightweight ceramic material, such as fired and/or molded ceramic fibers." The Examiner only relies upon *Wade* to teach a "panel being integrally formed from a ceramic moldable material." April 6, 2006, Office Action, page 4.

In contrast, claims 14 and 27 each recite a "hydronic heating system for a fireplace" that includes a "combustion chamber enclosure having a plurality of panels defining a combustion chamber for the combustion of fuel to generate heat." Claim 14 further recites a "liquid-filled conduit" that is "substantially embedded" in at least one of the panels of the combustion chamber. Claim 27 further recites a heat exchanger that includes a molded panel and a liquid-filled conduit "embedded within the molded panel" wherein "the molded panel is coupled to the combustion chamber enclosure."

Pierce does teach liquid filled conduits, but, as discussed above, does not teach liquid-filled conduits that are "embedded" in a panel that forms part of the combustion chamber enclosure recited as in claim 14. Furthermore, *Pierce* does not teach liquid-filled conduits embedded in a molded panel that is coupled to combustion chamber enclosure, as recited in claim 27. *Wade* does not remedy the previously discussed deficiencies in *Pierce* because *Wade* does not teach, disclose, or suggest liquid-filled conduits of any type. No combination of *Pierce* and *Wade*, therefore, teach, disclose, or suggest all of the claims limitations in independent claims 14 and 27.

Independent claims 14 and 27 are therefore not obvious over *Pierce* in view of *Wade*. Furthermore, the independent claims do not read upon any combination of *Pierce* and *Wade*. Claims 14 and 27 are therefore in condition for allowance for at least these reasons.

Dependent claims 15-16 and 28-35 are each dependent directly or indirectly from one of claims 14 and 27 and therefore incorporate all of the limitations of the parent claims. Dependent claims 15-16 and 28-35 are therefore allowable for at least these same reasons.

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None of the Dependent Claims are Obvious in View of the Cited References

The rejections of dependent claims 2-4, 11, 17-18, 20, 23, and 25 over various combinations of *Pierce*, U.S. Patent No. 4,660,761 to Rudy C. Bussjager, U.S. Patent No. 6,170,481 to David Charles Lyons et al., and U.S. Patent No. 5,915,374 to Edward Susany are all moot in view of the allowability of independent claims 1, 14, 19, and 27. Since each of 2-4, 11, 17-18, 20, 23, and 25 are directly or indirectly dependent on one of claims 1, 14, 19, and 27, each of dependent claims 2-4, 11, 17-18, 20, 23, and 25 are allowable for at least the same reasons given above.

Conclusion

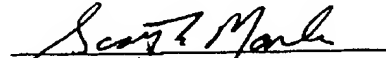
In view of the present amendments and remarks, Applicants submit that the claims are in condition for allowance and request that the Examiner pass this application to issuance.

Respectfully submitted,

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